

Figure 1. Humanized *R. reniformis* GFP polynucleotide sequence (wt hrGFP; SEQ ID NO: 1)

5'-

ATGGTGAGCAAGCAGATCCTGAAGAACACCTGCCTGCAGGAGGTGATGAG
CTACAAGGTGAACCTGGAGGGCATCGTGAACAACCACGTGTTCAACATGGA
GGGCTGCGGCAAGGGCAACATCCTGTTTCGGCAACCAGCTGGTGCAGATCC
GCGTGACCAAGGGCGCCCCCTGCCCTTCGCCTTCGACATCGTGAGCCCC
GCCTTCCAGTACGGCAACCGCACCTTCACCAAGTACCCCAACGACATCAGC
GACTACTTCATCCAGAGCTTCCCCGCCGGCTTCATGTACGAGCGCACCCCTG
CGCTACGAGGACGGCGGCCTGGTGGAGATCCGCAGCGACATCAACCTGAT
CGAGGACAAGTTCGTGTACCGCGTGGAGTACAAGGGCAGCAACTTCCCCG
ACGACGGCCCCGTGATGCAGAAGACCATCCTGGGCATCGAGCCCAGCTTC
GAGGCCATGTACATGAACAACGGCGTGCTGGTGGGCGAGGTGATCCTGGT
GTACAAGCTGAACAGCGGCAAGTACTACAGCTGCCACATGAAGACCCTGAT
GAAGAGCAAGGGCGTGGTGAAGGAGTTCCCCTCCTACCACTTCATCCAGCA
CCGCCTGGAGAAGACCTACGTGGAGGACGGCGGCTTCGTGGAGCAGCAC
GAGACCGCCATCGCCCAGATGACCAGCATCGGCAAGCCCCCTGGGCAGCCT
GCACGAGTGGGTGTAA-3'

Figure 2: Sequence of hrGFP-173 (SEQ ID NO: 2); the 18 base insert is underlined

5'-

ATGGTGAGCAAGCAGATCCTGAAGAACACCGGCCTGCAGGAGATCATGAG
CTTCAAGGTGAACCTGGAGGGCGTGGTGAACAACCACGTGTTCAACCATGGA
GGGCTGCGGCAAGGGCAACATCCTGTTTCGGCAACCAGCTGGTGCAGATCC
GCGTGACCAAGGGCGCCCCCTGCCCTTCGCCTTCGACATCCTGAGCCCC
GCCTTCCAGTACGGCAACCGCACCTTCACCAAGTACCCCGAGGACATCAGC
GACTTCTTCATCCAGAGCTTCCCCGCCGGCTTCGTGTACGAGCGCACCCCTG
CGCTACGAGGACGGCGGCCTGGTGGAGATCCGCAGCGACATCAACCTGAT
CGAGGAGATGTTTCGTGTACCGCGTGGAGTACAAGGGCCGCAACTTCCCCA
ACGACGGCCCCGTGATGAAGAAGACCATCACCGGCCTGCAGCCCAGCTTC
GAGGTGGTGTACATGAACGACGGCGTGCTGGTGGGCCAGGTGATCCTGGT
GTACCGCCTGAACAGCCAGATCTGAATTCGACGTCGGCAAGTTCTACAGCTG
CCACATGCGCACCCCTGATGAAGAGCAAGGGCGTGGTGAAGGACTTCCCCG
AGTACCACTTCATCCAGCACCGCCTGGAGAAGACCTACGTGGAGGACGGC
GGCTTCGTGGAGCAGCACGAGACCGCCATCGCCCAGCTGACCAGCCTGGG
CAAGCCCCTGGGCAGCCTGCACGAGTGGGTGTAA-3'

Figure 3: Polypeptide sequence of hrGFP (SEQ ID NO: 3)

MVSKQILKNTGLQEIMSFKVNLEGVVNNHVFTMEGCGKGNILFGNQLVQIRVTK
GAPLPFAFDILSPAFQYGNRTFTKYPEDISDFFIQSFPA GFVYERTLRYEDGGLV
EIRSDINLIEEMFVYRVEYKGRNFPNDGPVMMKKTITGLQPSFEVVYMNDGVLVG
QVILVYRLNSGKFYSCHMRTLMSKSGVVKDFPEYHFIQHRLEKTYVEDGGFVE
QHETAIAQLTSLGKPLGSLHEWV

Figure 4: Predicted protein sequence of hrGFP-173 (SEQ ID NO: 4); the 6 amino acid insertion is underlined

MVSKQILKNTGLQEIMSFKVNLEGVVNNHVFTMEGCGKGNILFGNQLVQIRVTK
GAPLPFAFDILSPAFQYGNRTFTKYPEDISDFFIQSFPAGFVYERTLRYEDGGLV
EIRSDINLIEEMFVYRVEYKGRNFPNDGPVMKKTITGLQPSFEVVYMNDGVLVG
QVILVYRLNSRSEFDVGKFYSCHMRTL MKSKGVVKDFPEYHFIQHRLEKTYVED
GGFVEQHETAIAQLTSLGKPLGSLHEWV

Figure 5 Renilla Reniformis GFP protein coding sequence
(SEQ ID No: 5)

R. ren: 1 ATGGTGAGTAAACAAATATTGAAGAACACTGGATTGCAGGAGATCATGTCGTTTAAAGTGAATC 64

R. ren: 65 TGGAAGGTGTAGTAAACAATCATGTGTTTACAATGGAAGGTTGTGGAAAAGGAAATATTT 124

R. ren: 125 TATTCGGAAACCAACTGGTTCAGATTTCGTGTCACAAAAGGGGCTCCGCTTCCATTTGCAT 184

R. ren: 185 TTGATATTCTCTCACCAGCTTTCCAATACGGCAACCGTACATTCACGAAATACCCGGAGG 244

R. ren: 245 ATATATCAGACTTTTTTATACAATCATTTCCAGCGGGATTGTATACGAAAGAACGTTGC 304

R. ren: 305 GTTACGAAGATGGTGGACTGGTTGAAATCCGTTTCAGATATAAATTTAATCGAGGAGATGT 364

R. ren: 365 TTGTCTACAGAGTGGAATATAAAGGTAGTAACTTCCCGAATGATGGTCCAGTGATGAAGA 424

R. ren: 425 AGACAATCACAGGATTACAACCTTCGTTTGAAGTTGTGTATATGAACGATGGCGTCTTGG 484

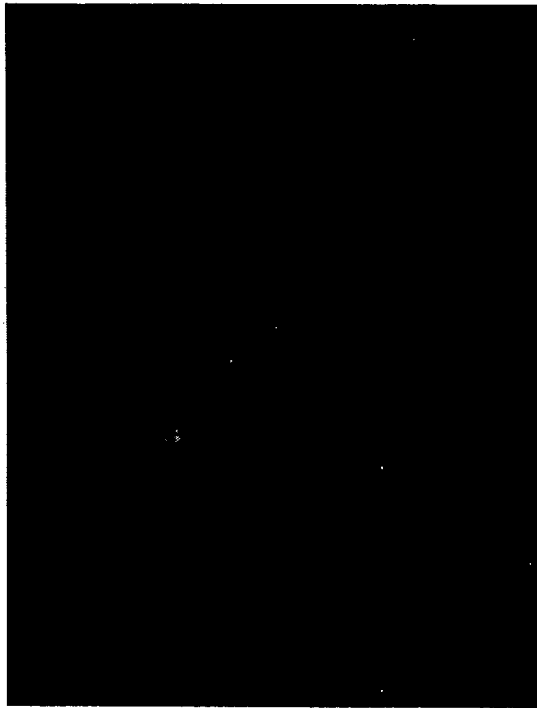
R. ren: 485 TTGGCCAAGTCATTCTTGTTTATAGATTAAACTCTGGCAAATTTTATTCGTGTCACATGA 544

R. ren: 545 GAACACTGATGAAATCAAAGGGTGTAGTGAAGGATTTTCCCGAATACCATTTTCATTCAAC 604

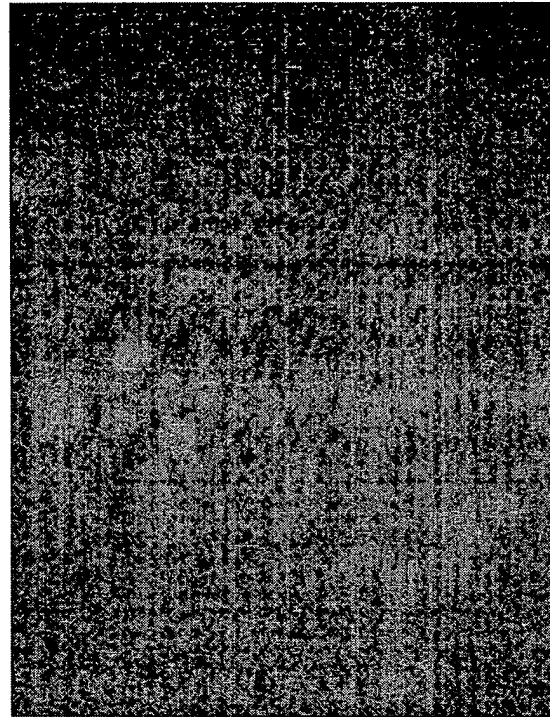
R. ren: 605 ATCGTTTATAGAGAAGACGTATGTGGAAGACGGAGGTTTGTGAGCAACACGAGACGGCCA 664

R. ren: 665 TTGCTCAACTGACATCGCTGGGGAAACCACTTGGATCCTTACACGAATGGGTTTAA 720

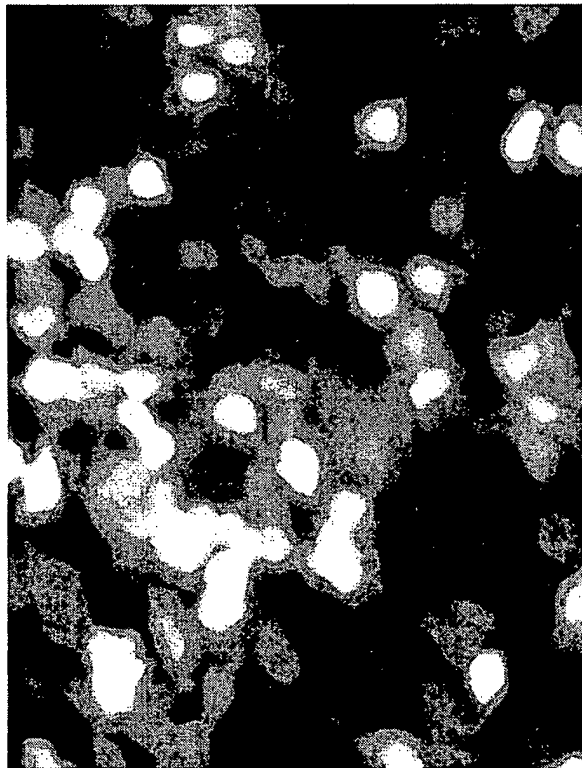
Figure 6a: hrGFP-173, 24-hour expression in 293 cells



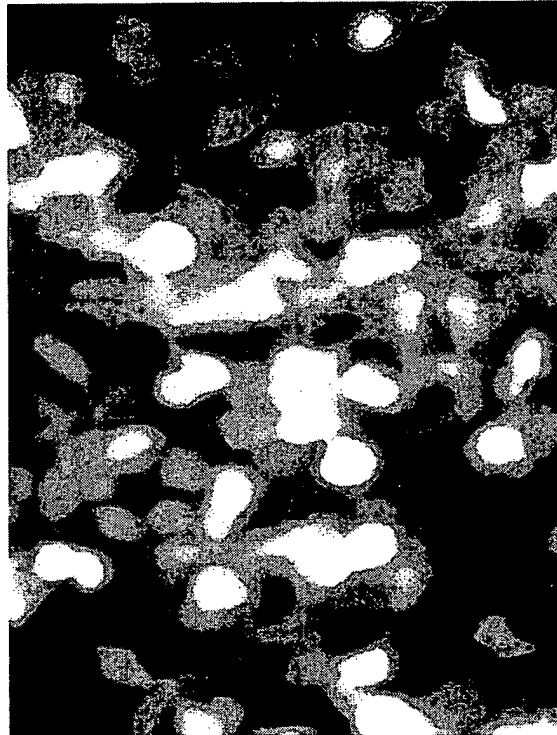
hrGFP-173 (integrate 111 = 3.69 sec)



hrGFP-173 (integrate 411 = 13.69 sec)

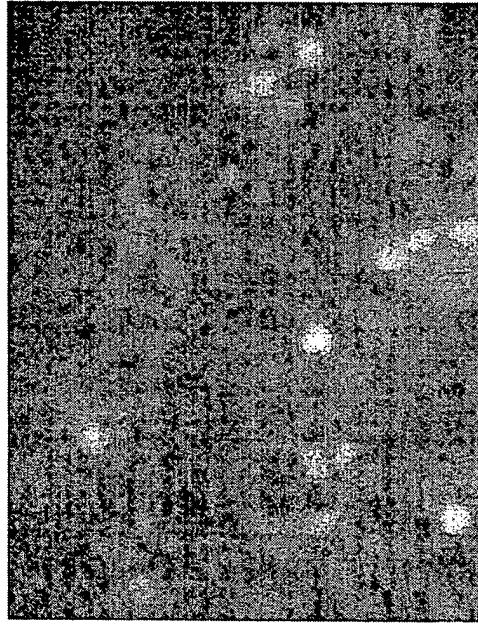


hrGFP (wild type) (integrate 111 = 3.69 sec)

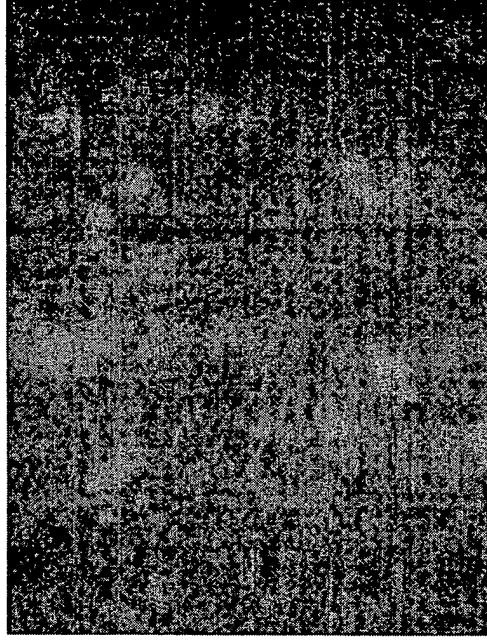


phrGFP-C control integrate 111 = 3.69 sec

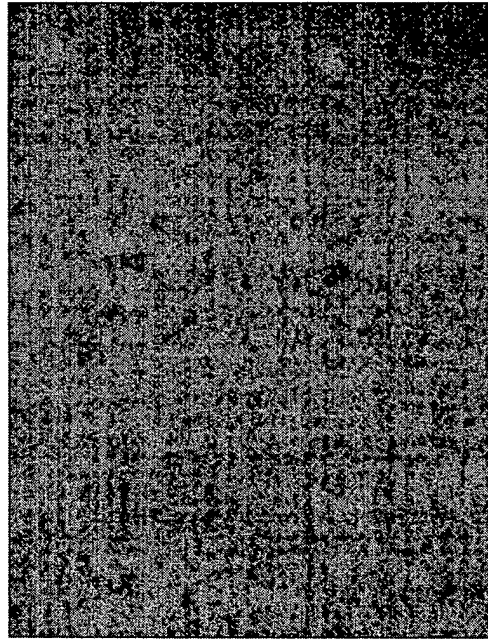
Figure 6b: ~70 hr expression of hrGFP-173, -174, -175 and wt
integrate 411 = 13.69 secs



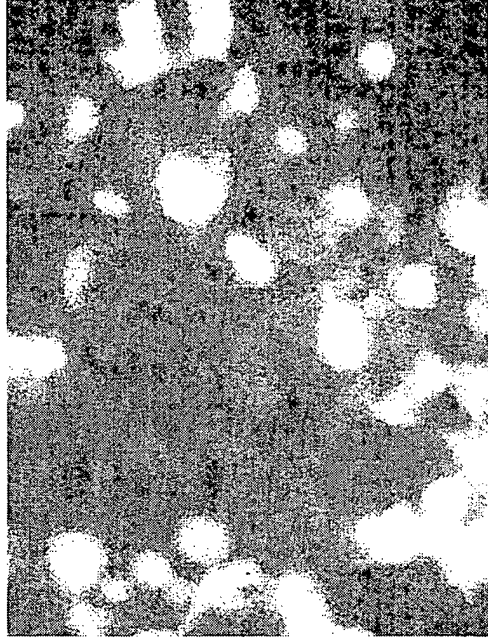
hrGFP-173



hrGFP-174

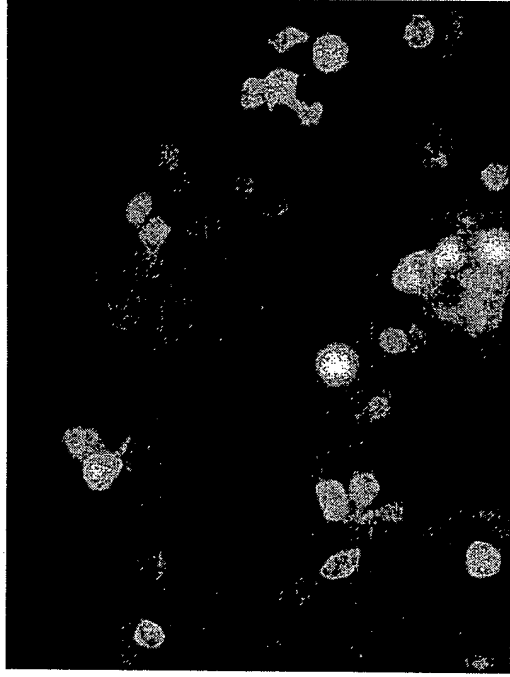


hrGFP-175



wt hrGFP

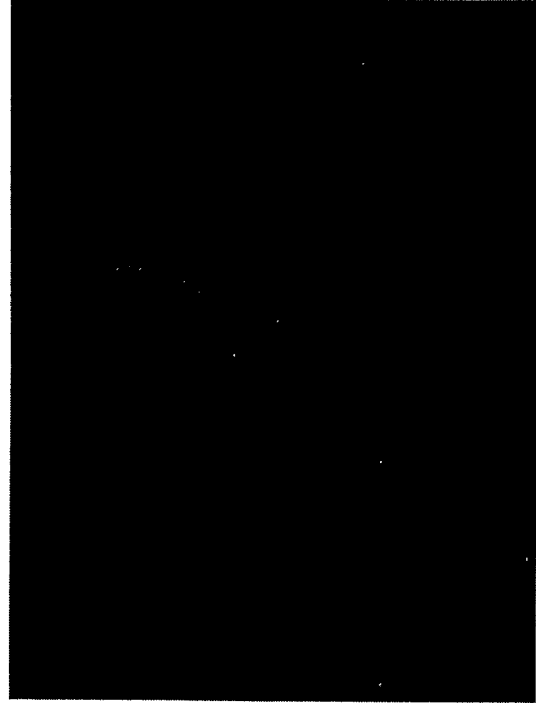
Figure 7: hrGFP-173, 24-hour expression in 293 cells (integrate 3.9 sec)



hrGFP-173



hrGFP-174



hrGFP-175



hrGFP (wild type)